WHAT IS CLAIMED IS:

1. An implantable prosthesis, comprising:

a body structure having an outer surface capable of contacting a surface of a vascular lumen;

a plurality of grooves defined on said outer surface of said body structure; and

filament portions containing a therapeutic substance disposed in said plurality of grooves.

2. The implantable prosthesis of Claim 1, wherein each of said plurality of grooves has a preselected and controlled distribution and a preselected and controlled depth.

3. The implantable prosthesis of Claim 2, wherein said preselected and controlled depth is equal to about 10% to 90% of a thickness of said body structure.

4. The implantable prosthesis of Claim 2, wherein said preselected and controlled depth is not greater than about 65% of a thickness of said body structure.

5. The implantable prosthesis of Claim 1, wherein each of said plurality of grooves are open ended.

6. The implantable prosthesis of Claim 1, wherein said plurality of grooves are formed by exposing said outer surface to an energy discharge from a laser.

7. The implantable prosthesis of Claim 1, wherein each of said plurality of grooves are formed in rows extending approximately perpendicular to a central longitudinal axis of said body structure.

8. The implantable prosthesis of Claim 1, wherein each of said filament portions comprise a polymer material.

9. The implantable prosthesis of Claim 1, wherein said therapeutic substance comprises a substance selected from the group consisting of antineoplastic, antiplatelet, anticoagulant, fribrinolytics, antimitotic, thrombin inhibitor, antiinflammatory, and antiproliferative agents.

10. The implantable prosthesis of Claim 1, wherein said therapeutic substance comprises a radioactive isotope.

11. The implantable prosthesis of Claim 1, further comprising a barrier formed on said outer surface of said body structure, wherein said barrier covers

each of said plurality of grooves to reduce the rate at which said therapeutic substance is released.

12. An implantable prosthesis, comprising:

a body structure having an outer surface capable of contacting a surface of a vascular lumen;

a plurality of grooves defined on said outer surface; and

a polymeric substance containing a therapeutic substance disposed in said plurality of grooves.

13. A method of loading a substance into a body of an implantable prosthesis, comprising:

providing a body structure having an outer surface capable of contacting a vascular lumen surface;

forming grooves on said outer surface of said body structure; and

positioning a monofilament including a therapeutic substance in said grooves.

14. The method according to Claim 13, wherein said positioning comprises winding a monofilament around said body structure to rest in said grooves.

15. The method according to Claim 14, further comprising removing portions of said monofilament extending outside of said grooves.

16. The method according to Claim 13, further comprising forming a barrier on said lumen contacting surface of said body structure for releasing said therapeutic substance at a controlled rate.

17. The method according to Claim 13, wherein said grooves comprise open ended trenches extending substantially perpendicular to a central axis of said body structure.

18. The method according to Claim 13, wherein said therapeutic substance comprises a substance selected from the group consisting of antineoplastic, antiplatelet, anticoagulant, fribrinolytics, antimitotic, thrombin inhibitor, anti-inflammatory, and antiproliferative substances.

19. The method according to Claim 13, wherein said monofilament comprises a polymer material including polyuethane blended with 10%-30% dexamethasone.

20. An implantable prosthesis, comprising:

a body structure having an outer surface capable of contacting a surface of a vascular lumen;

a plurality of open-ended trenches defined on said outer surface; and

a portion of a microfilament containing a therapeutic substance disposed in said plurality of trenches.